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10/022,333	12/20/2001	John Leroy Silvers	4191-001A	4923

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EXAMINER	
YAO, KWANG BIN	

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,333	SILVERS, JOHN LEROY	
	Examiner	Art Unit	
	Kwang B. Yao	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *7-18* is/are allowed.

6)☒ Claim(s) *1,3-6,19 and 20* is/are rejected.

7)☒ Claim(s) *2* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 3-6, 19, 20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. US 6,404,779. Although the conflicting claims are not identical, they are not patentably distinct from each other because the application's claims merely broaden the scope of the patented claims by not claiming some elements. The following is the

comparison between the patented claims and the claims in the instant application. U.S. Patent No. US 6,404,779 claims the following limitations: 1. A method for increasing transmission bandwidth for use with a computer processor and a mechanism for transmitting a plurality of simultaneous digital streams of information over a shared transmission medium, the method including the steps of: a. converting incoming streams of binary information, in the form of "0"s and "1"s on each of a plurality of lines, into corresponding digitally-represented streams of "no-play" and "play" commands; b. rendering the information in each of the plurality of incoming lines unique by assigning to each "no-play" and "play" command of a respective incoming line, a corresponding prime number Hertz frequency component, so as to provide a plurality of prime number Hertz frequency component streams; c. simultaneously transmitting the unique prime number Hertz frequency component streams of each of the plurality of incoming lines over the shared transmission medium in the form of a "disharmonic" chord; and d. receiving the transmitted chord and separating each of the plurality of lines contained therein, so as to convert each of the plurality of lines into streams of binary information in the form of "0"s and "1"s, by programming each line to receive only digitally-represented audio bits corresponding to the prime number Hertz frequency component assigned thereto. 2. The method set forth in claim 1, further including the step of restoring the digital coding of each line back to its binary form by converting the digitally-represented stream of `play" and "no-play" commands to a binary stream of "1"s and "0"s. 3. The method of claim 1 wherein said method is integrated into the software programming of a data or telecommunications switching device or server. 4. The method of claim 1 wherein said method is programmed onto an integrated circuit chip,

and integrated into the hardware design and function of a data or telecommunications switching device or server. 5. The method of claim 1, wherein said method is used as part of an IP server that transmits voice over IP data lines, as used in Internet Telephony devices. The instant application claims the following limitations: 1. A system for effectively increasing transmission bandwidth by transmitting a plurality of simultaneous information streams over a transmission medium, the system comprising: a. a digital receiving mechanism for receiving incoming streams of digital information on each of a plurality of incoming digital lines, the digital information being in a binary format of "0"s and "1"s, b. an assignment mechanism for generating respective streams of "no-play" and "play" commands using digital information on each of a plurality of corresponding incoming streams; c. a signal generation mechanism equipped to generate a plurality of prime number frequency components; d. a switching mechanism, coupled to the signal generation mechanism, for rendering the digital information on each of the plurality of incoming streams unique by applying "no-play" and "play" commands of a respective incoming stream to a corresponding prime number frequency component to be generated by the signal generation mechanism, to thereby generate a corresponding plurality of prime number frequency component information streams; and e. a transmission mechanism for simultaneously transmitting the plurality of prime number frequency component information streams over the transmission medium in the form of disharmonic chords, whereby respective prime number frequency component information streams represent corresponding incoming digital lines. 3. The system of claim 2 further including a conversion mechanism, coupled to the information stream receiving mechanism, for converting each of a plurality of isolated prime frequency components

back into a stream of digital information. 4. The system of claim 1 wherein at least two of: a. the digital receiving mechanism, b. the assignment mechanism, c. the signal generation mechanism; d. the switching mechanism, and e. the transmission mechanism are integrated into the software programming of a computing mechanism, telecommunications switching device, and/or computer server. 5. The system of claim 1 wherein: a. the digital receiving mechanism, b. the assignment mechanism, c. the signal generation mechanism; d. the switching mechanism, and e. the transmission mechanism are implemented by one or more application-specific integrated circuit chips (ASICs). 6. The system of claim 1, wherein at least two of: a. the digital receiving mechanism, b. the assignment mechanism, c. the signal generation mechanism; d. the switching mechanism, and e. the transmission mechanism, are implemented by an IP server that transmits voice over IP data lines, as used in Internet Telephony devices. 19. A method of conveying over a common transmission medium, without mutual interference, information from a plurality of incoming binary bit streams, the method comprising the steps of: a. rendering each binary bit stream unique by assigning to it a respective primary number frequency component, whereby the resultant bit stream is converted into a prime frequency component stream whose content depends on a prime frequency assigned to the binary bit stream; and b. simultaneously transmitting the plurality of prime frequency component streams as disharmonic chords over the common transmission medium. 20. A method as set forth in claim 19, further comprising the steps of receiving a disharmonic chord, separating the chord into individual prime frequency component streams, and decoding each individual prime frequency component stream to recover binary information carried thereby. The followings are the comparisons between the patent claims and instant

application claims. Claims 1, 3-6 of the instant application disclose all the limitations recited in claims 1-5 of U.S. Patent No. US 6,404,779 but the limitations of a computer microprocessor. Claims 19 and 20 of the instant application disclose all the limitations recited in claims 1 of the U.S. Patent No. US 6,404,779 but the limitations of "converting incoming streams of binary information, in the form of "0"s and "1"s on each of a plurality of lines, into corresponding digitally-represented streams of "no-play" and "play" commands". The application's claims are nearly identical in every other respect to the patent claims. Therefore, the application's claims are simply broader version of the patented claims. It is the examiner's position that broadening the patented claims by not claiming the above elements of the patented claims would have been obvious to one of the ordinary skill in the art in view of the patented claims. It is important to note that the instant application is a continuation of the application which yielded the patent (U.S. Patent No. US 6,404,779) used herein as the basis for the obviousness type of double patenting rejection. The application is attempting to broaden the parent application's claims by eliminating some the claimed elements in the continuation at issue here.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Tikalsky (US 5,875,179).

The admitted prior art disclose a method of conveying over a common transmission medium without mutual interference, information from plurality of incoming binary bit streams comprising the following features: regarding claim 19, a. rendering each binary bit stream unique; and b. simultaneously transmitting the plurality of streams as disharmonic chords over the common transmission medium; regarding claim 20, receiving a disharmonic chord, separating the chord into individual streams, and decoding each stream to recover binary information carried thereby. See pages 4-9 of the instant application. The admitted prior art does not disclose the following features: regarding claim 19, rendering each binary bit stream unique by assigning to it **a respective primary number frequency component**, whereby the resultant bit stream is converted into **a prime frequency component stream whose content depends on a prime frequency** assigned to the binary bit stream; and b, simultaneously transmitting the plurality of **prime frequency component streams** as disharmonic chords over the common transmission medium; regarding claim 20, separating the chord into **individual prime frequency component streams**, and decoding each **individual prime frequency component stream** to recover binary information carried thereby. (Emphasis added). Tikalsky discloses a communication system comprising the following features: as described on column 5, lines 33-48, regarding claim 19, rendering each binary bit stream unique by assigning to it **a respective primary number frequency component**, whereby the resultant bit stream is converted into **a prime frequency component stream whose content depends on a prime frequency** assigned to the binary bit stream; and b, simultaneously transmitting the plurality of **prime frequency component streams** as disharmonic chords over the common transmission medium; regarding claim 20,

separating the chord into **individual prime frequency component streams**, and decoding each **individual prime frequency component stream** to recover binary information carried thereby. (Emphasis added). It would have bee obvious to one of the ordinary skill in the art at the time of the invention to modify the method of the admitted prior art by using the features, as taught by Tikalsky, in order to provide a reliable data communication system. See Tikalsky, column 2, lines 8-28.

Allowable Subject Matter

5. Claims 7-18 are allowed.

6. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hong et al. (US 6,466,608) discloses a frequency hopping medium.

Cucchi et al. (US 6,320,911) discloses a system for providing information.

Hong et al. (US 5,844,900) discloses a method for optimizing a MAC protocol.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang B. Yao whose telephone number is 571-272-3182. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KWANG BIN YAO
PRIMARY EXAMINER

Kwang B. Yao
August 24, 2004